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NOTES ON THE SCREECH OWL.

BY P. T. COOLIDGE.

I.—A YOUNG SCREECH OWL IN CAPTIVITY.

ON June 5, 1902, I obtained a young Screech Owl (*Megascops asio*), which had been found two or three days before in a road in Cambridge, Mass. A brief description of the bird at the beginning of its period of captivity will give some idea of its age. Its total length was about seven inches, of which about one inch was tail. The whole plumage was remarkably soft and fur-like; the facial disk was not very clearly defined, and the ears were merely certain areas in the scalp plumage the feathers of which could be erected at will. At the end of the first week of captivity, the owl could fly well. Before acquiring this accomplishment, when put in some position of precarious footing, like the slippery arm of a chair, he could move most easily by crawling, sometimes clinging with his bill parrot-fashion. On the floor he would patter away as nimbly as a sandpiper.

The first evening he was as tame as a hungry robin nestling. He would perch willingly on one's finger, and would allow himself to be stroked. But when he first saw me the next morning, his gentleness had all disappeared. Hissing, and snapping his bill, he swayed from one foot to the other, and held his wings off from his sides and ruffled his feathers so that he was fully six inches wide. His hiss, in particular, was about as terrifying as a gentle puff from an empty atomizer. This performance was repeated but once or twice during the eleven weeks of his imprisonment with me. Thinking the bird might be hungry, as he had been given nothing the night before, I tried as soon as possible to feed him with liver. He protested much, by a rather musical chattering, especially at my attempts to force morsels down his throat.

The cage which the owl occupied during the summer was a box eighteen inches high, twenty-five inches long, and twenty-two inches wide, one side of which was covered with "cellar window

wire." This box was placed facing north on a piazza. The owl did not like to be in the sunlight except towards dusk, but he always perched near the front of the cage where he could see what was going on. During the daytime he was always quiet unless his interest was aroused by something, when his head would swing as violently as the exciting object warranted. This habit of swinging the head was his most striking trait. His head was almost always moving, either from side to side horizontally, or around in a vertical and side to side circle, the eyes generally focused with a stare on one thing or another. If he became excited, this head motion was communicated to his whole body. The circle which his head then described would reach from the point of his greatest stature to the level of his perch. The head swinging was not without interruption, being broken by frequent intervals of a few seconds each of steady staring, or when things were quiet and the owl had become accustomed to his surroundings, by much longer periods of comparative stillness. This habit was noted in his Barred Owls by Frank Bolles. My owl occasionally acted at sight of a person as a wild Screech Owl does, that is, he would stiffen and would move his head only enough to keep an eye on the intruder, and he always behaved thus at sight of a cat or of a dog. After a preliminary grunt, 'urrrh,' omitted however if the intruder were human, he would draw his plumage close to his body, move his tightly closed wings back slightly, erect his ears, and half close his eyes. The reason for such behavior on one occasion at sight of a distant gray squirrel invites speculation. If a cat or a dog came too near, the owl would generally try to fly.

The quiet of the day was broken shortly after sunset by his beginning to jump back and forth from perch to perch, and to swing his head excitedly. Presently he would try to escape, either by starting to fly directly from his perch or by climbing about the wire netting and beating his wings against it: or he would give vent to his feelings by tearing the papers which were spread on the floor of the cage. This performance was repeated many times every evening. He raised a large scab on his cere by bumping it against the wiring. If food were offered him at this time, he would be too excited to notice it, but by eight or nine o'clock he would be more quiet and more hungry. If during this evening

performance anything were held before him so that he could not see out, he would side-step rapidly along his perch until he found an opening. Indoors on his first day with me, he slept whenever the room was quiet; I never discovered him asleep again, although he often looked drowsy in the daytime, and if he slept, it must have occurred late at night or in the early morning.

His principal diet was raw beef, which cut into pieces the size of the end of one's finger, was fed to him by hand. He would eat meat that was not only luminous but so foul as to be unpleasant to prepare for him. Although he was not urged to learn that beef placed in his cage was good to eat, it took him some time to discover the fact. Besides beef, he ate mice, liver, birds, frogs, perch, June bugs, and earthworms: caterpillars he would not eat, and also, unlike another pet Screech Owl of which I heard, he would eat neither bread nor shredded wheat. He ate eagerly in the morning, taking a large amount of food in one meal, but would refuse to eat more until afternoon, or very often until evening. When food was offered him, if hungry, he would take it in his bill, and if the morsel were small enough, would swallow it at once. If too large for immediate swallowing, he would transfer it to his claw and jump to the floor of the cage. June bugs were generally picked to pieces on the perch. After a thorough biting and pulling of its head, ears, skin, legs, and tail, a dead mouse would be swallowed whole, head first. An eight inch owl gagged with a three inch mouse was a sight more suggestive of pain than of enjoyment; sometimes the mouse's tail would refuse to be swallowed immediately, and might dangle from the owl's bill for a minute or more before disappearing within. Birds, unless small, as nestling English sparrows, were eaten differently from mice. Generally the head and the abdomen were torn to pieces and eaten first, the owl standing on the food with both feet, and with his bill jerking off morsels to be swallowed; the remainder of the bird was sometimes eaten and sometimes abandoned. The owl never troubled himself to kill a bird outright. Pieces of beef too large for instant swallowing, were torn to pieces like birds. If the owl did not care for food which he was thus preparing, he would back away from it a few steps, stretch up to his full height, and look down at it with a most comical expression and attitude.

During the course of a day in which a mouse, bird or June bug had been eaten, the indigestible parts, as fur, feathers, bones, wing-scales, were thrown up in a pellet.

Although there was always a dish of water in the cage, I saw the owl drink but once,—just after he had been taken out into the sunshine and had been made furious by much handling. From his somewhat bedraggled appearance on many mornings, I judged that the owl often bathed at night. One noon, also, shortly after an experience similar to that which caused him to drink, the wetness of his plumage showed that he had bathed.

Besides the calls already mentioned, there were others. Sometimes on one's going to his cage in the evening the owl would give once what sounded like that part of the usual Screech Owl call in which the quavering voice is kept at one note. When hungry, he whined, in a high key, faintly and hoarsely. One evening he gave a call which sounded something like, *Yuck, yuck, yuck, yuck*, the "yucks" at about the same rate as the notes of a flicker's long "laugh."

The pity for blindness expressed by most who saw the owl by daylight was undoubtedly wasted. He would watch crows several hundred yards away, and if an ant or other insect strayed into the cage, he was sure to watch it intently. Taken into direct sunlight, he generally stiffened slightly and blinked, but as he always did this at sight of a foe, it does not indicate that the light pained his eyes. In the sunlight he often panted, seeming to suffer more from heat than from light. Anyone who has seen Screech Owls in the field knows that it is as hard to stalk them from the sunny side as from the shady. At the sight of his image in a mirror, he showed surprisingly little excitement.

For the purpose of using my owl as a decoy, it was my custom to tie him by one leg with a short string to a stick, an undertaking which always produced a struggle, in which, and only in which, he would bite uncomfortably. For success in attracting birds, it was necessary to draw the attention of Robins or Chickadees to the owl, for only they would give a general alarm. This accomplished, other birds would join in the "rough-house." Besides Robins and Chickadees, I noted Orioles, Chipping Sparrows, and various species of warblers and vireos. A longer list would

doubtless have been obtained by further experiment. The birds scolded the owl harshly with their usual calls, but they often disappeared shortly, leaving the field to the Chickadees and Robins, which never tired of abusing him. The most vehement bird was a Wood Thrush, which dashed back and forth, passing so close to his head that he snapped savagely in defense at each attack. Blue Jays, even when I was at a distance, seemed to pay no attention to the scolding of the smaller birds. Scarlet Tanagers, and also to my surprise, Kingbirds and Flickers, refused to be interested. The owl watched his slanderers sharply and steadily. A pair of young Broad-winged Hawks, although of the usual tameness of the species, seemed to ignore the owl, which stiffened on seeing them against the sky, but failed to see them among trees.

To mounted birds my owl paid no attention unless they were moved. A mounted crow gave him much misery. When he first saw the crow moved, he would stiffen and erect his ears; then, as the crow was brought nearer he would fly unless cornered. In such strait he would order the crow to keep away by snapping his bill, ruffling himself into a mass of bristling feathers, from which would glare two fiery, blinking eyes, and most characteristically by giving a long-drawn *oooo*, in the voice of the "Hoot" Owl. His throat would swell much with this call. If the crow became too lively, the owl would fly, aiming first at the crow's head and then passing on. If the crow were made to peck him, he would snap his bill sharply, but would do nothing more.

Moulting, which was first noticeable on July 31, gave the bird his adult plumage and showed him to be of the gray phase. As the old feathers became more and more thin and shabby, the bright, compact, new plumage showed through, on the under parts first. The moulting was not entirely complete when I last saw him on August 21.

Though the owl showed intelligence in some ways, the fiercer qualities of a bird of prey remained unchanged. He was as ready to scold at one's approach, to bite if handled, and to escape at night on the last day of his captivity as on the first. In the daytime, if one approached his cage so slowly as not to ruffle his feelings, he would watch from his sleepy eyes, now and then swinging his head a little, so drowsily as to seem well-disposed. When

in an agreeable mood, he would allow his head to be stroked, but if the finger went too far down his back or touched his breast, the threatening bill opened. Sometimes, taking my finger in his claw, he would bite it gently all over, as if trying to discover its properties.

The owl is much more like other birds than may-be generally supposed. My pet lacked the constraint and the desire to hide which wild owls usually show in one's presence, and accordingly his body was generally relaxed and tilted forward like that of a song bird. When quiet the owl perched on one foot and curled the other away under his feathers. Again, like other birds, he spent much time in preening. The fact that in captivity he could exercise very little may account for his occasionally stretching first one wing and then the other to its full extent downward behind him, and at the same time rising on his feet to his full height. Sometimes he raised his wings above his back and shook them. His disposition was stoical as to sounds: he would pay no attention to whistles, squeaks, or banging on the cage. One's movements were watched with great alertness, however, and if they were sudden, he would sometimes start.

My owl was released by a friend on September 15 of the same year: he seemed to be unwell at the time. During his three months' captivity he learned to trust people so that although he was ever ready to scold or bite, he would not seek concealment or flight at their approach. But except for this partial trustfulness, my pet was probably but little different in instincts from the owl that had always been free.

II.—MATING OF THE SCREECH OWL.

Visits at sunset in the spring of 1903 to the residence of a pair of Screech Owls near Cambridge disclosed the nature of their mating. The owl's dwelling was a hole about a foot in diameter and about twenty feet from the ground in a large elm. After my discovery of the tree in February, 1900, it was inhabited by a gray screech owl every winter until that of 1904-1905. As the bird's habits remained unchanged, and as it came and went at the same seasons, it is probable that the same gray screech owl

occupied the tree each winter. From the doings of the pair in mating, as will presently be described, I judge that this bird was the female. In 1900, 1901, and 1903, about the middle of March, a red owl joined the gray one for two or three weeks in her watch at the entrance of the cavity, the two birds sitting side by side. At the approach of a person the owls backed down out of sight into the depths of their hole, more promptly in the daytime than in the dusk, more promptly if one's approach were directly towards the tree than if otherwise, and the gray bird sooner than the red one. They returned to the entrance with promptness inversely proportional to their willingness to withdraw, the gray bird at noon not for perhaps fifteen or twenty minutes, the red one towards sunset in less than a minute.

The hour of the owls' movements was controlled by the degree of darkness. Hence on cloudy evenings the various events occurred rather earlier by the clock than at the hours given below, which apply to clear evenings. By watching at the foot of the owl tree, I found that the gray owl began her night's hunting, whether the red owl were present or not, about forty minutes after sunset. The gray owl was a little suspicious even in the dusk, any sudden or unusual movement causing her to retire for a few minutes. But the red owl in the dusk would not retreat under any provocation, although until a few minutes after sunset he would sit rather quietly, with plumage drawn tightly against his body, and ears erect. As the darkness increased his attitude relaxed: he would ruffle his plumage, scratch his head, and look about, into the distance, or down into the hole in which the female was hiding, or at me on the grass below. About ten or eleven minutes after sunset he left the tree and began singing his love song: he was now full of life and ignored all disturbance. His song was in B flat of the middle octave, a soft trill, seemingly far away, two or three seconds long, and closing with an upward inflection, as if the bird were asking a question,—as doubtless he was. Until the flight of the female, he sang from various perches, now from the branches of the elm, now from some neighboring tree, now from the rim of the cavity in the elm, his eyes fastened upon his quiet mate. His handsome head was continually bobbing and swinging. Once in a while the male would

light beside her; flashing of wings would follow, but the darkness made more exact analysis of their movements impossible. Occasionally he would fly out of sight. Returning from one of these trips he lighted upon the rim of the cavity and touched his bill to that of his mate, but whether to give her some tidbit, or merely a greeting, the darkness kept secret. Hoping to make the gray owl fly and to see by her silhouette if she had food in her bill, I threw sticks at her, but instead of flying she retired for a few minutes into her chamber. By the time the female flew, the darkness made it difficult to see the owls at all. The male disappeared at the same time, and although on the two evenings on which I saw the love-making, March 29 and April 5, I waited about ten minutes longer, nothing happened and the place seemed deserted. Whether or not the red owl followed the gray one in her hunting, and what took place at the tree later in the night must be left to the imagination.

On account of the exposed situation of the owl castle, I never risked the disclosure of the secret to greedy eyes by climbing up to examine its interior. However, as the gray owl was never seen from the first week in April until the following autumn, and as no young were ever seen at or near the tree, the nesting more probably took place elsewhere, the tree under observation being only the winter quarters of the female. The red owl was not seen after the second week in April, except in 1903, when he apparently lived alone at the tree until the last week in May.

In the spring of 1904 no mate joined the gray owl at the tree. It would be interesting to know whether she advertised herself as a gay widow, or whether a mate found her in spite of her demure ways, but notwithstanding frequent visits she was not seen after the evening of March 24, 1904, and it is probable that the eyrie is of the past.